ABSTRACT

Provided is an X-ray CT scanner that minimizes or removes artifacts in an image derived from afterglow caused by a detector, and highly precisely prevent degradation in a time resolution by compensating afterglow.

An X-ray CT scanner includes an X-ray source that irradiates X-rays to an object, an X-ray detector that is composed of a plurality of X-ray detecting elements which convert X-rays penetrating the object into electric signals, a data correction means that corrects an output of the X-ray detector, and an arithmetic processing means that performs arithmetic processing on an output of the data correction means so as to reconstruct an image. The X-ray CT scanner further includes a first memory means in which data of the response characteristic of the X-ray detector that is the afterglow-related characteristic thereof and that is measured in advance is stored, and a second memory means in which output data items produced by the X-ray detector over past projections and corrected by the data correction means on the basis of the response characteristic data are stored. The data correction means includes an afterglow correction means that uses the response characteristic data stored in the first memory means and the output data items, which are produced over past projections and stored in the second memory means, to compensate an adverse

effect of inflow of signals from the past projections due to
the afterglow on output data acquired during current projection,
and an adverse effect of outflow of signals to future
projections.

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